

potential of a structure. But there is worse, in that some compounds are reported that have been shown in the literature not to be the assigned structure. This casts significant doubt on the validity of several of the entries. A pity, this is not the book I was looking for, but it is a fairly extensive, if not thorough, review of published data.

Leonard G Copping

Integrated pest management: Ideals and realities in developing countries

Stephen Morse and William Buhler

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Integrated pest management ('pest' taken in the narrow sense as an arthropod pest of an agricultural or horticultural crop) is a concept which is endorsed by the majority of advisors and specialists as the way forward for developed agricultural systems. It has not had many takers among farmers in the developing world and this book sets out to analyse why this might be so.

Chapter 1 describes the great variety of views as to what IPM really is. Most popular definitions encompass non-chemical control methods, economic factors, risk management, and knowledge-based decision making, but more recent assessments include 'a ...term so common and bastardized that everyone ...will tell you they are practising (it)' (Barfield and Swisher, 1994) and the view that '...even a common general understanding of what constitutes legitimate IMP also presents serious problems. First it means that a *de facto* standard of 'anything goes' prevails by default' (Moore, 1996). From this refreshingly honest

starting point, Chapter 2 considers four 'core elements' of IPM which have proved stumbling blocks to its implementation in developing agricultural systems: the need to monitor arthropod pest populations, the need to reduce pesticide use, the need for farmers to have an appropriate knowledge base and the ability of extension services to provide it.

IPM has its own socio-economic history, reviewed in Chapter 3. The authors trace the development of IPM through the publicly funded research programmes which accompanied the industrialisation of agriculture in the United States during the second half of this century and assess the way in which the assumptions underlying these programmes influenced the pest management strategies proposed. This is followed in Chapter 4 by a critical analysis of some of the standard IPM success stories and some suggestions about the circumstances necessary for their success. Because these are so different from the conditions under which IPM is being attempted in many countries, the reasons why IPM has become such a dominant paradigm within entomological research are subjected to some close scrutiny. Chapters 3 and 4 develop the theme by contrasting the practicability of IPM in heavily capitalized industrial agriculture with that in resource-poor farming systems. Finally, Chapters 5 and 6 trace the manner in which IPM continuously re-invents itself by incorporating new technologies, removing it ever further from the reach of resource-poor farmers, and Chapter 7 attempts to suggest an alternative strategy (RPM, realistic pest management) to the virtual imposition of IPM on farming communities in poor countries.

This is a refreshing and iconoclastic book which should be required reading for students of applied biology. In 171 pages it challenges some of the cherished myths of IPM and subjects them to some long-overdue scrutiny.

G le Patourel